AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for assigning orthogonal codes used for a first system and a second system in a CDMA (Code Division Multiple Access) system including first system channels having first system signals for spreading with first orthogonal codes corresponding to a first set of orthogonal code numbers in different rows of a set of orthogonal codes arranged in a matrix of m rows and m columns, and second system channels having second system signals for spreading with second orthogonal codes corresponding to a second set of orthogonal code numbers different from said first set of orthogonal code numbers, comprising the steps of:

~~creating a subset of orthogonal codes arranged in a matrix of subsets of orthogonal codes and inversed orthogonal codes, each subset including 2n rows and 2n columns;~~

assigning to the first system channels ~~to the channels of the first system~~ orthogonal codes, each being a Walsh code with a length of m chips, taking as a root at least one of 4-chip Walsh codes of W_0^4 =0000, W_1^4 =0101, W_2^4 =0011, and W_3^4 =0110 ~~corresponding to at least one of 2n rows of the matrix of the subset of orthogonal codes~~; and

assigning to the second system channels ~~to the channels of the second systems~~ orthogonal codes, each being a Walsh code with a length shorter than m chips, taking as a root remaining 4-chip Walsh codes excepting the 4-chip Walsh codes assigned to the first system channels ~~corresponding to at least one of 2n rows of the matrix of the subset of orthogonal codes not assigned to the first system chanels~~.

2. (Original) The method as claimed in claim 1, wherein the first system is a CDMA2000 system and the second system is an HDR (High Data Rate) system.

3. (Previously Presented) The method as claimed in claim 1, wherein the Walsh codes assigned to the first system channels are 64 bits long and the Walsh codes assigned to the second system channels are shorter than the length of the Walsh codes of assigned to the first system channels.

4. (Previously Presented) The method as claimed in claim 1, wherein the Walsh codes

assigned to the first system channels are two of 4-chip Walsh codes of W_0^4 =0000, W_1^4 –0101, W_2^4 =0011, and W_3^4 =0110, and the Walsh codes assigned to the second system channels are Walsh codes with a spreading factor of below 32, taking as a root the remaining 4-chip Walsh codes expecting said 4-chip Walsh codes assigned to the first system channels.

5. (Previously Presented) The method as claimed in claim 4, wherein the Walsh codes assigned to the second system channels are W_2^4 =0011, and W_3^4 =0110.

6. (Canceled)

7. (Previously Presented) The method as claimed in claim 1, wherein the Walsh codes assigned to the second system channels takes W_1^4 =0101, W_2^4 =0101, W_3^4 =0011 as a root.

8. (Original) A channel transmission apparatus in a CDMA system, comprising:

channel transmitters of a first system, including common channels and dedicated channels;

channel transmitters of a second system, including data channels having data rate higher than a data rate of the first system;

an orthogonal code assignor including a table comprised of orthogonal codes to be assigned to the channels of the first system and orthogonal codes to assigned to the second system, wherein Walsh codes assigned to the first system are Walsh codes with a length of m chips, taking as a root at least two of 4-chip Walsh codes of W_0^4 =0000, W_1^4 =0101, and W_3^4 =0110, and Walsh codes assigned to the second system are Walsh codes with a length less than m chips, taking as a root the remaining 4-chip Walsh codes excepting said 4-chip Walsh codes used in the first system; and

a controller for controlling the orthogonal codes assignor according to assigned channel information and applying the assigned Walsh codes to the channel transmitters of the first and second systems.

9. (Original) The channel transmission apparatus as claimed in claim 8, wherein the

Walsh codes assigned to the first system are Walsh codes of spreading factor m=64 taking W_0^4 =0000 and W_1^4 =0101 as a root and the Walsh codes assigned to the second system are 4-chip Walsh codes of W_2^4 =0011 and W_3^4 =0110 with spreading factor of blow 32 chips.

10. (Original) A channel transmission apparatus in a CDMA system, comprising:

channel transmitters of a second system, including common channels and dedicated channels;

channel transmitters of a second system, including data channels having a data rate higher than a data rate of the first system;

an orthogonal code assignor including a table comprised of orthogonal codes to be assigned to the channels of the first system and orthogonal codes to be assigned to the second system, wherein Walsh codes assigned to the first system are Walsh codes with a length of m chips, taking as a root a specified one of 4-chip Walsh codes of W_0^4 =0000, W_1^4 =0101, W_2^4 =0011 and W_3^4 =0110, and the Walsh codes assigned to the second system are Walsh codes with a length of below m chips, taking as a root the remaining 3 4-chip Walsh codes excepting said 4-chip Walsh code used in the first system; and

a switch controller for controlling the orthogonal code assignor according to assigned channel information and applying the assigned Walsh codes to the channel transmitters of the first and second systems.

11. (Original) The channel transmission apparatus as claimed in claim 10, wherein the Walsh codes assigned to the first system are Walsh codes of spreading factor 64, taking W_0^4 =0000 as a root, and the Walsh codes assigned to the second system are Walsh codes of spreading factor of below 32 chips, taking W_1^4 =0101, W_2^4 =0011 and W_3^4 =0110 as a root.

12. (Original) A channel receiving apparatus in a CDMA system, comprising:

channel receivers of a first system, including common channels and dedicated channels;

channel receivers of a second system, including data channels having a data rate higher than a data rate of the first system;

an orthogonal code assignor including a table comprised of orthogonal codes to be

assigned to the channels of the first system and orthogonal codes to be assigned to the second system, wherein Walsh codes assigned to the first system are Walsh codes with a length of m chips, taking as a root at least two of 4-chip Walsh codes of W_0^4 =0000, W_1^4 =0101, W_2^4 =0011 and W_3^4 =0110, and the Walsh codes assigned to the second system are Walsh codes with a length of below m chips, taking as a root the remaining 4-chip Walsh codes excepting said 4-chip Walsh code used in the first system; and

a switch controller for controlling the orthogonal code assignor according to assigned channel information and applying the assigned Walsh codes to the channel receivers of the first and second systems.

13. (Original) The channel receiving apparatus as claimed in claim 12, wherein the Walsh codes assigned to the first system are Walsh codes of spreading factor 64, taking W_0^4 =0000 and W_1^4 =0101 as a root, and the Walsh codes assigned to the second system are Walsh codes of a spreading factor of a spreading factor of blow 32 chips, taking W_2^4 =0011 and W_3^4 =0110 as a root.